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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/814,233

04/01/2004

Bo-Cun Chen

SUND 509

5363

23995

7590

07/30/2007

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EXAMINER

GITOMER, RALPH J

ART UNIT

PAPER NUMBER

1657

MAIL DATE

DELIVERY MODE

07/30/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/814,233	CHEN ET AL.	
	Examiner	Art Unit	
	Ralph Gitomer	1657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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The amendment of 7/9/07 has been entered and claims 2-16 are currently pending in this application.

The claimed invention appears to be a two part method where microorganisms in water are concentrated on a filter and stained with KMnO<sub>4</sub> to make them visible. It is well known that KMnO<sub>4</sub> stains cells brown which was an issue when it was frequently used for treating skin conditions such as poison ivy leaving lasting brown stains on everything it contacted including skin. Concentrating cells by filtering is old. And the claims have been newly amended to include growing the microorganisms on the membrane with a nutrient solution prior to staining to make it easier to perform a colony count after staining.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of each of Lloyd and Fleming in view of Levenberg.

Lloyd (4,209,585) entitled "Method and Apparatus for the Automatic Microbiological Sampling of a Liquid Product" teaches in column 1 lines 26-43, liquid samples are passed through membranes which filter out microorganisms. The membranes are then introduced to a nutrient medium and incubated for a period of time. The cells are then stained and detected. In column 3 last full paragraph, after collection the membranes and nutrient medium are incubated. The size of the pores may be selected to filter out microorganisms larger than a predetermined size. After incubation the membrane may be subjected to staining which will disclose the presence of microorganisms.

Fleming (US 2002/0055134 A1) entitled "Method and Apparatus for Viable and Nonviable Prokaryotic and Eukaryotic Cell Quantitation" teaches in paragraph 8, samples are filtered through a membrane filter that traps the cells to be counted, dye is applied and cells counted. In paragraph 48 cell determination may be made by using dyes or stains.

The claims differ from the above references in that they specify the stain is potassium permanganate.

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Levenberg (US 2005/0031598) entitled "Engineering 3D Tissue Structures Using Differentiating Embryonic Stem Cells" teaches in paragraph 108, staining cells with potassium permanganate.

It would have been obvious to one of ordinary skill in this art at the time the invention was made to stain the cells of the primary references with potassium permanganate as taught by Levenberg because the primary references teaches dyes and stains in general and to select any known dye or stain, such as potassium permanganate as taught by Levenberg with the expected result would have been obvious. No unexpected results are taught or claimed by the selection of potassium permanganate.

Applicant's arguments filed 7/9/07 have been fully considered but they are not persuasive.

Applicants argue that the present claims have been amended to be directed to the semiconductor manufacturing process and to include the limitation of rinsing the membrane with water before performing a colony count.

It is the examiner's position that the process for which the analyzed water is employed is given no patentable weight. All the present claims are directed to detecting microorganisms and all the cited references are directed to detecting microorganisms. There are many industrial processes such as preparing IV medical drug solutions to kidney dialysis that require highly purified and verified clean from some contaminant water. However, the process of removing contaminants and verifying the purity of the

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water are independent from what the water is then used for. And one of skill in this art would look to the water purification arts to purify water for any purpose, and to the microbe detection arts to detect microbes. No particular criticality is seen in analyzing water for semiconductor manufacturing where it is undesirable to have microorganisms in the water because many other needs for water also require water with low microorganism populations. The present applicants did not discover the need for clean water for semiconductor manufacturing.

Regarding rinsing the membrane, no novelty is seen in staining microorganisms and then removing excess stain by rinsing prior to observing the stained microorganisms.

Regarding newly added claims 15-16 directed to photographing the water sample, it is unclear what information would be stored by photographing the water after it has been filtered. Photographing any samples for no specific function does lend patentability to the present method.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

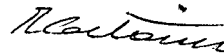
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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ralph Gitomer whose telephone number is (571) 272-0916. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on (571) 272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Ralph Gitomer  
Primary Examiner  
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